

What is claimed is:

1. A liquid filter assembly comprising:
 - (a) a filter head; said filter head having a center tube, an outer tube, a first liquid flow port, and a second liquid flow port; said outer tube circumscribing said center tube;
 - (i) said outer tube defining an end, an outer tube end port at said end, and an outer tube flow passageway extending between and in fluid communication with said first liquid flow port and said outer tube end port;
 - (A) said outer tube further including an outer tube threaded region;
 - (ii) said center tube defining a center tube flow passageway and a center tube end port; said center tube flow passageway extending between and in fluid communication with said center tube end port and said second liquid flow port;
 - (A) said center tube projecting outwardly from said end of said outer tube;
 - (B) said center tube defining a center tube threaded region;
 - (b) a filter operably connected to said filter head; said filter having a housing defining an interior and a cartridge filter operably oriented within said housing interior;
 - (i) said filter having a filter threaded region threadably engaged to one of said outer tube threaded region and said center tube threaded region to form a threaded connection;
 - (ii) said filter being in liquid flow communication with said outer tube end port and said center tube end port;
 - (c) a first seal arrangement; said first seal arrangement oriented to form a first seal to inhibit leakage between said outer tube flow passageway and said filter; and

- (d) a second seal arrangement; said second seal arrangement oriented to form a second seal to inhibit leakage between said center tube flow passageway and said filter.
- 2. A liquid filter assembly according to claim 1 wherein:
 - (a) said filter comprises a bowl-cartridge filter;
 - (i) said housing being re-usable; and
 - (ii) said cartridge filter being selectively replaceable within said housing.
- 3. A liquid filter assembly according to claim 2 wherein:
 - (a) said threaded connection is between said outer tube threaded region and said filter threaded region;
 - (i) said filter threaded region being on an exterior portion of said housing;
 - (ii) said outer tube threaded region being on an interior portion of said outer tube.
- 4. A liquid filter assembly according to claim 2 wherein:
 - (a) said threaded connection is between said outer tube threaded region and said filter threaded region;
 - (i) said filter threaded region being on an interior portion of said housing;
 - (ii) said outer tube threaded region being on an exterior portion of said outer tube.
- 5. A liquid filter assembly according to claim 1 wherein:
 - (a) said center tube threaded region is along an outer portion of said center tube and has a circular cross-section; and

- (b) said center tube further includes a sealing region on said outer portion of said center tube;
 - (i) said center tube threaded region being oriented between said sealing region and said center tube end port; said sealing region having a circular cross-section with a diameter larger than a diameter of the cross-section of said center tube threaded region.
- 6. A liquid filter assembly according to claim 1 wherein:
 - (a) said filter comprises a spin-on canister filter;
 - (i) said housing being single-use; and
 - (ii) said cartridge filter being permanently, and non-replaceably mounted within said housing.
- 7. A liquid filter assembly according to claim 6 wherein:
 - (a) said threaded connection is between said center tube threaded region and said filter threaded region;
 - (i) said filter threaded region being on a baffle plate;
 - (b) said first seal arrangement includes a face seal formed between and against said baffle plate and said end of said outer tube.
- 8. A liquid filter assembly according to claim 6 wherein:
 - (a) said threaded connection is between said outer tube threaded region and said filter threaded region:
 - (i) said filter threaded region being on an exterior portion of said housing;
 - (ii) said outer tube threaded region being on an interior portion of said outer tube.
- 9. A liquid filter assembly according to claim 6 wherein:

- (a) said threaded connection is between said outer tube threaded region and said filter threaded region:
 - (i) said filter threaded region being on a baffle plate; and
 - (ii) said outer tube threaded region being on an exterior portion of said outer tube.

10. A liquid filter assembly comprising:

- (a) a filter head; said filter head having a center tube, an outer tube, a first liquid flow port, and a second liquid flow port; said outer tube circumscribing said center tube;
 - (i) said outer tube defining an end, an outer tube end port at said end, and an outer tube flow passageway extending between and in fluid communication with said first liquid flow port and said outer tube end port;
 - (A) said outer tube further including an outer tube threaded region;
 - (ii) said center tube defining a center tube flow passageway and a center tube end port; said center tube flow passageway extending between and in fluid communication with said center tube end port and said second liquid flow port;
 - (A) said center tube projecting outwardly from said end of said outer tube;
 - (B) said center tube having a center tube threaded region on an outer surface of said center tube; said center tube threaded region having an outer diameter;
 - (C) said center tube further including a sealing region on said outer surface of said center tube; said center tube threaded region being oriented between said sealing region and said center tube end port; said sealing region having an

outer diameter larger than the outer diameter of said
center tube threaded region;

- (b) a filter operably connected to said filter head; said filter having a housing defining an interior and a cartridge filter operably oriented within said housing interior;
 - (i) said filter having a filter threaded region threadably engaged to said outer tube threaded region;
 - (ii) said filter being in liquid flow communication with said outer tube end port and said center tube end port;
- (c) a first seal arrangement; said first seal arrangement oriented to form a first seal to inhibit leakage between said outer tube flow passageway and said filter; and
- (d) a second seal arrangement; said second seal arrangement oriented to form a second seal against said center tube sealing surface to inhibit leakage between said center tube flow passageway and said filter.

11. A liquid filter assembly according to claim 10 wherein:

- (a) said filter comprises a bowl-cartridge filter;
 - (i) said housing being re-usable; and
 - (ii) said cartridge filter being selectively replaceable within said housing.

12. A liquid filter assembly according to claim 11 wherein:

- (a) said filter threaded region is on an exterior portion of said housing; and
- (b) said outer tube threaded region is on an interior portion of said outer tube.

13. A liquid filter assembly according to claim 11 wherein:

- (a) said filter threaded region is on an interior portion of said housing; and

- (b) said outer tube threaded region is on an exterior portion of said outer tube.
- 14. A liquid filter assembly according to claim 10 wherein:
 - (a) said filter comprises a spin-on canister filter;
 - (i) said housing being single-use; and
 - (ii) said cartridge filter being permanently, and non-replaceably mounted within said housing.
- 15. A liquid filter assembly according to claim 14 wherein:
 - (a) said filter threaded region is on an exterior portion of said housing; and
 - (b) said outer tube threaded region is on an interior portion of said outer tube.
- 16. A liquid filter assembly according to claim 14 wherein:
 - (a) said filter threaded region is on a baffle plate; and
 - (b) said outer tube threaded region is on an exterior portion of said outer tube.
- 17. A liquid filter assembly comprising:
 - (a) a filter head; said filter head having a center tube, an outer tube, a first liquid flow port, and a second liquid flow port; said outer tube circumscribing said center tube;
 - (i) said outer tube defining an end, an outer tube end port at said end, and an outer tube flow passageway extending between and in fluid communication with said first liquid flow port and said outer tube end port;
 - (A) said outer tube further including an outer tube threaded region;

- (ii) said center tube defining a center tube flow passageway and a center tube end port; said center tube flow passageway extending between and in fluid communication with said center tube end port and said second liquid flow port;
 - (A) said center tube projecting outwardly from said end of said outer tube;
 - (B) said center tube further including a center tube threaded region;
 - (b) a filter operably connected to said filter head; said filter having a housing defining an interior and a cartridge filter operably oriented within said housing interior;
 - (i) said filter having a filter threaded region threadably engaged to said center tube threaded region to define a threaded connection;
 - (A) said threaded connection having a cross-sectional thickness no greater than 10 mm;
 - (ii) said filter being in liquid flow communication with said outer tube end port and said center tube end port;
 - (c) a first seal arrangement; said first seal arrangement oriented to form a first seal to inhibit leakage between said outer tube flow passageway and said filter; and
 - (d) a second seal arrangement; said second seal arrangement oriented to form a second seal to inhibit leakage between said center tube flow passageway and said filter.
18. A liquid filter assembly according to claim 17 wherein:
- (a) said filter comprises a spin-on canister filter;
 - (i) said housing being single-use; and
 - (ii) said cartridge filter being permanently, and non-replaceably mounted within said housing.

19. A liquid filter assembly comprising:
- (a) a filter head; said filter head having a center tube, an outer tube, a first liquid flow port, and a second liquid flow port; said outer tube circumscribing said center tube;
 - (i) said outer tube defining an end, an outer tube end port at said end, and an outer tube flow passageway extending between and in fluid communication with said first liquid flow port and said outer tube end port;
 - (A) said outer tube further including an outer tube threaded region;
 - (ii) said center tube defining a center tube flow passageway and a center tube end port; said center tube flow passageway extending between and in fluid communication with said center tube end port and said second liquid flow port;
 - (A) said center tube projecting outwardly from said end of said outer tube;
 - (b) a filter operably connected to said filter head; said filter having a housing defining an interior and a cartridge filter operably oriented within said housing interior;
 - (i) said filter having a filter threaded region threadably engaged to said outer tube threaded region to define a threaded connection;
 - (A) said threaded connection having a cross-sectional thickness no greater than 10 mm;
 - (ii) said filter being in liquid flow communication with said outer tube end port and said center tube end port;
 - (c) a first seal arrangement; said first seal arrangement oriented to form a first seal to inhibit leakage between said outer tube flow passageway and said filter; and

- (d) a second seal arrangement; said second seal arrangement oriented to form a second seal to inhibit leakage between said center tube flow passageway and said filter.

20. A liquid filter assembly according to claim 19 wherein:

- (a) said filter comprises a bowl-cartridge filter;
 - (i) said housing being re-usable; and
 - (ii) said cartridge filter being selectively replaceable within said housing.